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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/915,731

07/26/2001

Dae-Sik Oh

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09/17/2004

SPRINT

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KSOPHT0101-Z2100

OVERLAND PARK, KS 66251-2100

EXAMINER

PEREZ, JULIO R

ART UNIT

PAPER NUMBER

2681

DATE MAILED: 09/17/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/915,731

Applicant(s)

OH ET AL.

Examiner

Julio R Perez

Art Unit

2681

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 July 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>2,3</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-19 are rejected under 35 U.S.C. 102(b) as being anticipated by Kaallman (5434950).

Regarding claim 1, Kaallman discloses a method of establishing an active set for a mobile station operating in a cellular wireless system, the method comprising: determining a physical position of the mobile station (col. 3, lines 23-28, the mobile station transmit constant position information to radio stations); querying a sector coverage database to identify at least one sector that encompasses the physical position (col. 3, lines 29-43, the mechanism locating block keeps a list of the radio stations that can provide propagation coverage to the position of the moving mobile station; in fact, corresponding to a coverage list of the different sectors or cells for providing assistant to the mobile on its corresponding position); and establishing for the mobile station an active set comprising the at least one sector (col. 3, lines 37-47, the procedure conforms to

a listing of the possible cells that will provide coverage to the mobile, and ,
hence, communicating such set of cells to the mobile station).

Regarding claim 2, Kaallman discloses a method, further comprising:
sending an indication of the active set to the mobile station (col. 3, lines 43-47,
the mobile station receives information regarding the possible best radio stations
for its coverage).

Regarding claim 3, Kaallman discloses a method, wherein the active set
consists of only one sector (col. 3, lines 43-47, the mobile station receives
information regarding the possible best radio station or stations; in fact,
depending on the arrangements of the cell sites, whether one sector (OMNI) or
several sector (sector antennas), for its effective coverage).

Regarding claim 4, Kaallman discloses a method comprising: repeating
the method as the mobile station moves from a first physical position to a second
physical position (col. 3, lines 37-47, the procedure conforms to a listing of the
possible cells that will provide coverage to the mobile, and, hence,
communicating such set of cells to the mobile station depending on its position;
the mobile station is moving target; therefore, it is moving at all times, indeed
changing positions).

Regarding claim 5, Kaallman discloses a method of establishing an active
set for a mobile station operating in a cellular wireless system, the method
comprising: determining a physical position of the mobile station (col. 3, lines 23-
28, the mobile station transmit constant position information to radio stations;

position of the mobiles, in conventional mobile systems such as CDMA systems, are provided from the mobile to the base stations via a GPS incorporated within the mobile stations); establishing a proposed set of active sectors (col. 3, lines 37-47, the procedure conforms to a listing of the possible cells that will provide coverage to the mobile, and , hence, communicating such set of cells to the mobile station); and using the physical position of the mobile station as a basis to select a subset of active sectors from the proposed set of active sectors, the subset of active sectors defining the active set (col. 3, lines 29-47; col. 4, lines 30-68; col. 5, lines 1-33, the radio base is constantly receiving information about the mobile's position and received signal strength; indeed, it may deduce the strongest signal strength depending on the distance from mobile to the base station; hence, determining the best radio base (cell or sector) to serve to mobile station).

Regarding claim 6, Kaallman discloses a method, further comprising: sending an indication of the active set to the mobile station (col. 3, lines 43-47, the mobile station receives information regarding the possible best radio stations for its coverage).

Regarding claim 7, Kaallman discloses a method, wherein determining the physical position of the mobile station comprises: receiving a signal from the mobile station indicating the mobile station position (col. 3, lines 23-28, the mobile sends indicia of its whereabouts to the radio base).

Regarding claim 8, Kaallman discloses a method, wherein determining the physical position of the mobile station comprises: querying a mobile positioning center to obtain an indication of the physical position of the mobile station (col. 3, lines 23-28, the mobile sends indicia of its whereabouts to the radio base; further, It is inherent as evidenced by the fact that one of ordinary skill in the art would have recognized that the mobile would inquire a mechanism such as a GPS device, either incorporated in the mobile, or would inquire a locating equipment system, which may be either as a separate system or co-located within an MSC within the cellular system).

Regarding claim 9, Kaallman discloses a method, wherein establishing the proposed set of active sectors comprises: identifying at least one sector that encompasses the physical position, the at least one sector defining the proposed set of active sectors (col. 3, lines 29-47; col. 4, lines 30-68; col. 5, lines 1-33, the mechanism locating block keeps a list of the radio stations that can provide propagation coverage to the position of the moving mobile station; in fact, corresponding to a coverage list of the different sectors or cells for providing assistant to the mobile on its corresponding position).

Regarding claim 10, Kaallman discloses a method, wherein identifying at least one sector that encompasses the physical position comprises: querying a sector coverage database to identify the at least one sector that encompasses the physical position (col. 3, lines 29-43, the mechanism locating block keeps a list of the radio stations that can provide propagation coverage to the position of

the moving mobile station; in fact, corresponding to a coverage list of the different sectors or cells for providing assistant to the mobile on its corresponding position).

Regarding claim 11, Kaallman discloses a method, wherein the subset of active sectors consists of only one sector, and wherein using the physical position of the mobile station as a basis to select the subset of active sectors comprises: selecting from the proposed set of active sectors a sector to which the mobile station is closest (col. 3, lines 29-47; col. 4, lines 30-68; col. 5, lines 1-33, the radio base is constantly receiving information about the mobile's position and received signal strength; indeed, it may deduce the strongest signal strength depending on the distance from mobile to the base station; hence, determining the best radio base (cell or sector) to serve to mobile station).

Regarding claim 12, Kaallman discloses a method, wherein the subset of active sectors consists of only two sectors, and wherein using the physical position of the mobile station as a basis to select the subset of active sectors comprises: selecting from the proposed set of active sectors two sectors to which the mobile station is closest (col. 3, lines 29-47; col. 4, lines 30-68; col. 5, lines 1-33, the radio base is constantly receiving information about the mobile's position and received signal strength; indeed, it may deduce the strongest signal strength depending on the distance from mobile to the base station; hence, determining the best radio base (cell or sector) to serve to mobile station; the procedure

conforms to a listing of the possible cells that will provide coverage to the mobile, and , hence, communicating such set of cells to the mobile station).

Regarding claim 13, Kaallman discloses a method, wherein sending an indication of the active set to the mobile station comprises: sending a Handoff Direction Message (HDM) to the mobile station, the HDM including the indication of the active set (col. 3, lines 29-47; col. 4, lines 30-68; col. 5, lines 1-33, the mobile station receives information, and provides the radio base position and signal strength data, hence, regarding the possible best radio stations for its coverage in order to have an effective handover).

Regarding claim 14, Kaallman discloses a soft handoff method comprising: repeatedly performing a method as the mobile station moves from a first position to a second position, wherein the proposed set of active sectors when the mobile station is at the first position is different than the proposed set of active sectors when the mobile station is at the second position (col. 3, lines 37-47, the procedure conforms to a listing of the possible cells that will provide coverage to the mobile, and, hence, communicating such set of cells to the mobile station depending on its position; the mobile station is moving target; therefore, it is moving at all times, indeed changing positions and cell candidates).

Regarding claim 15, Kaallman discloses a soft handoff method comprising: performing a method when the mobile station is at a first position, thereby establishing a first active set (col. 3, lines 37-47, the procedure conforms

to a listing of the possible cells that will provide coverage to the mobile, and, hence, communicating such set of cells to the mobile station depending on its position; the mobile station is moving target; therefore, it is moving at all times, indeed changing positions and cell candidates); and performing a method when the mobile station has moved from the first position to a second position, thereby establishing a second active set different than the first active set (col. 3, lines 37-47, the procedure conforms to a listing of the possible cells that will provide coverage to the mobile, and, hence, communicating such set of cells to the mobile station depending on its position; the mobile station is moving target; therefore, it is moving at all times, indeed changing positions and cell candidates).

Regarding claim 16, Kaallman discloses a method comprising: periodically performing the method (col. 3, lines 37-47, the procedure conforms to a listing of the possible cells that will provide coverage to the mobile, and, hence, communicating such set of cells to the mobile station depending on its position; the mobile station is moving target; therefore, it is moving at all times, indeed changing positions; further, corresponding to a continuous use of the procedure).

Regarding claim 17, Kaallman discloses a method of establishing an active set for a mobile station operating in a cellular wireless system, the method comprising: determining a physical position of the mobile station (col. 3, lines 23-28, the mobile station transmit constant position information to radio stations); querying a sector coverage database to identify a plurality of sectors that each

encompass the physical position (col. 3, lines 29-43, the mechanism locating block keeps a list of the radio stations that can provide propagation coverage to the position of the moving mobile station; in fact, corresponding to a coverage list of the different sectors or cells for providing assistant to the mobile on its corresponding position); selecting from the plurality of sectors at most two sectors to which the mobile station is closest, the at most two sectors defining an active set (col. 3, lines 37-47; col. 4, lines 30-58, the procedure conforms to a listing of the possible cells that will provide coverage to the mobile, and, hence, communicating such set of cells to the mobile station; furthermore, to decide what base station is the best server for the mobile, a decision of best signal or path loss distant between mobile and base stations must be decided, that must include a decision between at least two radio base stations); and sending to the mobile station an indication of the active set (col. 3, lines 43-47, the mobile station receives information regarding the possible best radio stations for its coverage).

Regarding claim 18, Kaallman discloses a system for establishing an active set for a mobile station operating in a cellular wireless system, the system comprising: means for determining a physical position of the mobile station (col. 3, lines 23-28, the mobile station transmit constant position information to radio stations); means for establishing a proposed set of active sectors (col. 3, lines 37-47, the procedure conforms to a listing of the possible cells that will provide coverage to the mobile, and, hence, communicating such set of cells to the

mobile station); means for using the physical position of the mobile station as a basis to select a subset of active sectors from the proposed set of active sectors, the subset of active sectors defining the active set (col. 3, lines 29-47; col. 4, lines 30-68; col. 5, lines 1-33, the radio base is constantly receiving information about the mobile's position and received signal strength; indeed, it may deduce the strongest signal strength depending on the distance from mobile to the base station; hence, determining the best radio base (cell or sector) to serve to mobile station); and means for providing an indication of the active set for transmission to the mobile station (col. 3, lines 43-47, the mobile station receives information regarding the possible best radio stations for its coverage).

Regarding claim 19, Kaallman discloses a system for establishing an active set for a mobile station operating in a cellular wireless system, the system comprising: a processor (col. 3, lines 29-42, the system possesses processing means); data storage (col. 3, lines 29-67; Figs 2-3, the system stores information after processing in order to inform the mobile of possible cells for handover); program instructions stored in the data storage and executable by the processor to cause the processor (i) to determine a physical position of the mobile station, (ii) to establish a proposed set of active sectors, (iii) to use the physical position as a basis to select a subset of active sectors from the proposed set of active sectors, the subset defining an active set, and (iv) to provide an indication of the active set for transmission to the mobile station (col. 3, lines 29-67; col. 4, lines 1-58, the system provides means for receiving information about the mobile

Art Unit: 2681

location, hence, capabilities to store data and later on perform steps of checking mobile present or subsequent mobile position, provide data of possible cells for handover and consequently relating information to the mobile station).

Conclusion

2. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following patents are cited to further show the art with respect to systems that provide sector or cell coverage regarding the position of the mobile stations.

US Pat. No. 6321090 to Soliman	Position detection to facilitate handoff
US Pat. No.6195342 to Kaallman	Determining handoff candidates
US Pat. No. 5513246 to Johnson et al.	Locating handoff with criteria
US Pat. No. 6026301 to Satarasinghe	Hard handoff in a CDMA area
US Pat. No. 6549781 to O'Byrne et al.	Determining CDMA performance
US Pat. No. 20020027889 to Yun et al.	Handoff mobile station in CDMA
US Pat. No. 6570862 to Virtanen	Handover in cellular radio

US Pat. No.6498785 to Cerryberry et al.

Power control on a
common channel

US Pat. No. 20030017831 to Lee et al.

Load sharing within CDMA

US Pat. No. 6449305 to Menich et al.

Performing handoff in
CDMA


US Pat. No. 20020102976 to Newbury et al.

Inter-layer handoff in
cellular systems

3. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Julio R Perez whose telephone number is (703) 305-8637. The examiner can normally be reached on 7:00 - 4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Hudspeth can be reached on 703-308-4825. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

4. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


JP
9/12/04


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